

## CLOSURE WITH SOFT FEEL GRIP

### FIELD OF THE INVENTION

The present invention is directed to a closure comprising a gripping area having a covering. More particularly, the invention is directed to a closure comprising a gripping area having a covering that is a soft feel material.

### BACKGROUND OF THE INVENTION

Closures for containers such as screw cap closures are used by millions of people each and every hour every day. They are used on tens of thousand of products ranging from food products, to home and personal care products, to automotive products etc.

Closures such as screw caps are so popular because they provide a simple means of opening and resealing a container. However, as almost everyone has experienced at one time or another, closures such as screw caps can be difficult to remove and may hurt a users hand when the user must exert a large force to unscrew the closure.

Closures are normally made of relatively hard materials such as plastic or metal.

Closure designers and manufactures have developed various designs in an attempt to make the closure more comfortable and easier for the consumer to remove so as to use the product in the container and provide the consumer with better means of gripping the closure to open a container. These various designs are evident by a quick look at the grocery store shelves. However, the designs have primarily focused on changing the shape of the gripping area of the closure to increase the user's ability to open the closure with minimum force (i.e. provide a

gripping area where a user's hand won't slip making better use of the force applied by the user). Such designs have primarily involved the shape of the gripping area as well as providing teeth prevent slipping by the user's hand. Other attempts have focused on the means by which the closure is fastened to the container.

An object of the present invention is to provide a closure having a gripping area that provides the consumer with greater comfort during removal of the closure from a container.

Other objects of the present invention will become apparent to those skilled in the art by reference to the specification.

## SUMMARY OF THE INVENTION

In a first aspect, the present invention is directed to a closure having a peripheral skirt and a ceiling extending inwardly from atop of the skirt, wherein the peripheral skirt has an outer surface that is a gripping area for removing the closure from a container and wherein the outer surface has a covering that is part of the closure and which covers at least a portion of the gripping area.

In a second aspect, the present invention is directed to closure having a peripheral skirt and a ceiling extending inwardly from atop of the skirt, wherein the peripheral skirt has an outer surface that is a gripping area for removing the closure from a container and wherein the outer surface has a covering that is part of the closure and which covers at least a portion of the gripping area and wherein the material covering the gripping area is comprised of a different composition than the closure.

In a third aspect, the present invention is directed to a closure having a peripheral skirt and a ceiling extending inwardly from atop of the skirt, wherein the peripheral skirt has an outer surface that is a gripping area for removing the closure

from a container and wherein the outer surface has a covering that is part of the closure and which covers at least a portion of the gripping area and wherein the covering has an outer surface made of a soft feel material.

The closure of the present invention provides the consumer with a closure that has a more luxurious feel and make it more enjoyable and easier for the consumer to remove from a container. Furthermore, the closure will provide the marketer and retail outlet with packaging that distinguishes itself from other packaging on the store shelves.

By soft feel material it is meant the property of the outermost layer of the material has a Shore A or Shore D hardness (ASTM D 2240) of from at least 35, preferably at least 40 to up to 80, more preferably up to 70 and even more preferably up to 60, and including all ranges subsumed therein.

All numerical ranges and percentages in this specification and claims are intended to be modified by the term about.

As used herein, the term “comprising” means that a specified material or element is present, optionally together a further material or element, and includes including, made up of, composed of, consisting and/or consisting essentially of.

For a more complete understanding of the above and other features and advantages of the invention, reference should be made to the following detailed description of preferred embodiments and to the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a closure of the invention.

FIG. 2 is a perspective view of a closure of the invention.

## DETAILED DESCRIPTION OF THE INVENTION

The invention relates to a closure having covering which covers at least a portion of the closure gripping area. Preferably, the covering is made of a soft feel material.

The term closure hereby should be understood generally as a cap for any type of container for holding any form of product, especially fluid products, fluid products including liquids, as well as flowing materials such as powders or granules. The closure of the invention is preferably a polymeric closure, although other closures such as metallic closures may be used. The invention is directed at closures that are comprised of solid materials that are relatively inflexible. By inflexible it is meant materials that will resist pressure and retain their shape when under a slight load such as the load when making a fist.

The closure of the invention may be made by conventional techniques such as injection molding from a thermoplastic material compatible with a container material and its contents. The closure may be mono-layer or multi-layer and may be made of HDPE, PP, PVC, PET, POLYCARBONATE or acrylic or nitrite base resins, and preferably contains a minimum of 25% PCR. Other materials with which this invention may be used include, but are not limited to: polyamides (PA) and/or polyethylene terephthalate (PETE), polyvinylchloride (PVC); and polystyrene (PS) including multilayer combinations thereof. The closure may comprise one or more layers of a single material or a combination of various materials.

The closure 10 has a peripheral skirt 12 and a ceiling 14 extending inwardly from the top of peripheral skirt 12. The peripheral skirt 12 has an outer surface 16 that is a gripping area 18. The gripping area can be any part or all of the outer surface 16 of peripheral skirt 12. The gripping area 18 has a covering that is part of the closure and covers at least part of the gripping area.

It will be appreciated that while the ceiling 14 of the cap 10 is described as extending inwardly from the top of peripheral skirt 12, the ceiling 14 may extend inwardly from any portion, not necessarily the top, of peripheral skirt 12.

The closure of the invention is intended to be used as a cap for a container which has a finish at an end where product is to be dispensed.

The closure is adapted for engagement with the finish of the container. For example, the inner surface of the peripheral skirt of the closure may be threaded with internal threads that mate with external threads on the finish of a container. Similarly, the outer surface of the peripheral skirt of the closure may be threaded with external threads that mate with internal threads on the finish of a container. Alternatively, the closure may engage the finish of a container by other known means such as by snap-on means.

In accordance with the invention, a covering is on at least a portion of the closure gripping area. The covering can be one or more labels which are applied by conventional techniques. Preferably the covering is applied on the gripping area by in-mold labeling (IML). Other techniques which may be used include, without limitation, pressure-sensitive or stretch or shrink-on labeling or other known techniques. Preferably, the gripping area is covered by two labels, one applied on a first portion of the gripping area and the second applied to a second portion of the gripping area. The two labels are preferably sufficiently large such that they will overlap and completely cover the gripping area of the closure.

The covering could also be a paint product that is applied to the gripping area by conventional paint application techniques. Examples of suitable paints that provide a soft feel effect include paints with Orgasol additive which is commercially available from Atofina. Other suitable commercially available paints include Lanco PP1362D, PP1362SF, 1382LF, 1400SF, CP1481F, CP1481SF, PE1544F, A1601,

A1602, D2S, HM1666, SM2003, Glidd 2312, Glidd 5118, Glidd 5575, Glidd 5618, LiquiMatt 5730, and LiquiMatt 6375 all commercially available from Lubrizol. E.I. Du Pont De Nemours & Co. also offers soft touch coatings/paint commercially available under the names VelvaShield and Aqua~DekoSoft.

The covering can also include a coating that is applied by conventional coating techniques. For example, a lacquer such as Silk Touch Lacquer 43829 commercially available from SIPCA North America may be used. These coatings may be applied to the gripping area directly, however they are preferably applied to a label to be applied to the gripping area. The coatings may be applied by conventional coating techniques including, without limitation, gravure printing press, screen printing, Thermage printing, and offset flexography.

The base layer of a label may be made of any suitable polymeric material, e.g., polypropylene, polyethylene (HDPE, MDPE, LDPE, LLDPE), polypropylene (PP, OPP), blends of PP and PE, polyvinyl chloride (PVC), polyethylene terephthalate (EPET, PETG, OPET) and polystyrene (PS, HIPS). Polypropylene and polyethylene are preferred for use with in-mold labels.

Preferably the covering on the gripping area is a soft feel material or is a label coated with a soft feel material. Soft feel materials include without limitation, for example, cataloy polyolefins, thermoplastic olefin resins, thermoplastic elastomers or silk touch type lacquers such as 43829 Silk Touch Lacquer commercially available from SIPCA North America. Such soft feel materials are disclosed, for instance, in U.S. Patent Nos. 6,503,619; 5,733,617; 5,250,343, 5,677,055; 5,585,193; 5,594,070; 5,151,309; 5,968,431, U.S. Patent Application Publication No. 2002/0155283 A1, and EP 0 667 234 A1, the disclosures all of which are incorporated herein by reference. Soft feel materials are commercially available from numerous suppliers including, Basell Polyolefins Company N.V., Bayer, Advanced Elastomer Systems, Monsanto Company, Multi-Color Corporation, and Kraton. A preferred soft feel material is Adflex Q 302 B from Basell Polyolefins Company N.V.

The covering on the gripping area may cover from e.g., 20% to 100% of the surface of the gripping area. Preferably the label covers at least 30% of the surface of the gripping area. More preferably, the covering covers at least 50% of the surface of the gripping area, more preferably at least 65%, and even more preferably at least 80%, and most preferably 100% of the surface of the gripping area, and including all ranges subsumed therein.

The covering may have any thickness. The label thickness for an IML (in-mold label) usually ranges from 2 to 12 mils, but could be thinner for stretch and shrink-on labels. More preferably, the covering/label thickness ranges from 2 to 8 mils.

Preferably, at least a portion of the label covering the gripping area will include indicia such as product information. The label may also be a different color than the remaining portion of the closure.

Referring to the drawings, Figures 1 and 2 show closures in accordance with the present invention. The closure 10 in each embodiment has a peripheral skirt 12 and a ceiling 14 which extends inwardly from atop of the skirt 12. The peripheral skirt 12 has an outer surface 16 that is a gripping area 18. The gripping area can be any part or all of the outer surface 16 of peripheral skirt 12. The gripping area 18 has a covering 20 that is part of the closure and covers at least part of the gripping area.

The cover on the gripping area may cover only certain parts, purposely leaving other parts bare in order to provide a benefit to the user, such as a better grip or a more comfortable grip of the closure. For instance, Figure 2 shows an embodiment where the covering 20 covers only part of the gripping area 18. The gripping area 18 is covered in region 22 and is not covered in region 24.

The closure of the invention may be used with containers having any type of contents that are stored in containers, including home and personal care products and food products. A preferred product for such containers having a closure of the invention are liquid laundry detergent and liquid fabric treatment compositions such as fabric softeners.

It should be understood of course that the specific forms of the invention herein illustrated and described are intended to be representative only as certain changes may be made therein without departing from the clear teachings of the disclosure. Accordingly, reference should be made to the following appended claims in determining the full scope of the invention.